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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/823,596	04/14/2004	Eon-Pyo Hong	P25213	6221

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EXAMINER
COLON SANTANA, EDUARDO

ART UNIT	PAPER NUMBER
2837	

NOTIFICATION DATE	DELIVERY MODE
10/22/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/823,596	HONG ET AL.	
	Examiner	Art Unit	
	Eduardo Colon Santana	2837	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 July 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,4,5 and 9* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,4,5 and 9* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☒ Other: *Detailed Action*.

DETAILED ACTION

1. Applicant's amendments filed on 7/02/2007 have been received and entered in the case.

2. Applicant's amendments and/or response with respect to the claims have been considered but they are not persuasive. See Response to Arguments below.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless -
>
> (b) The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) The invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 1 and 4 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Kwon et al. U.S. Patent No. 6,747,428.

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the

reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Referring to claims 1 and 4, Kwon et al. discloses a device and method for controlling the supply of current and static capacitance to a compressor (see all figures and respective portions of the specification). Further, Kwon et al. depicts from figure 1, a prior art diagram, having a reactor (3) connected to a motor (M) in order to cut off a surge current generated when power (1) is applied to a motor of the compressor at an initial stage. Furthermore, Kwon et al. depicts from figure 1, a relay (2) acting as an over-current cutting-off device, connected in series to the reactor (3), which is connected in parallel to an operating capacitor (5) and starting capacitor (6) that countervails an inductance of a coil (C2) wound in a motor of a compressor (see Col. 1 and 2).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kwon et al. U.S. Patent No. 6,747,428 in view of Song U.S. Patent No. 6,715,301.

Referring to claim 5, Kwon et al. addresses all the similar limitations of claim 1 above, including having a power supply, current detecting unit, voltage detecting unit and a microcontroller unit, but does not explicitly describe that the microcontroller or microcomputer calculates a stroke based on the voltage detected and the current detected and compares the calculated stroke with a stroke reference value to generate a switching control signal. Nonetheless, Song discloses an apparatus and method for controlling driving of a reciprocating compressor, wherein figure 4, depicts a power supply, a current detecting unit (404), a voltage detecting unit (402) and a microcomputer (406), wherein the microcomputer (406) calculates a stroke based on the detected values of the current and voltage detecting units and compares the calculated stroke with a stroke reference value.

Since Kwon et al. and Song are in the same field of endeavor, the purpose disclose by Song would have been recognized in the pertinent art of Kwon et al.

It would have been obvious to one of ordinary skill in the art at the time of the invention to have a device for controlling the supply of current and static capacitance as taught by Kwon et al. within the teaching of a reciprocating compressor by Song for the purpose/advantages that when the inductance value of the motor coil installed at the compressor is changed, the capacitance value of the capacitors connected to the motor is varied to thereby stably drive the compressor; in addition, when the operation mode of the compressor is changed, unnecessary current consumption can be prevented, and thus, power consumption can be reduce; finally when the operation mode of the compressor is changed, an over-current is prevented and the operation mode of the compressor can be quickly changed.

5. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kwon et al. U.S. Patent No. 6,747,428 in view of Nacewicz et al. U.S. Patent No. 5,212,436.

Referring to claim 9, Kwon et al. address the similar limitations as describe in claim 1 above, including a relay (2) as a overcurrent cutting off device connected in series with a reactor (3), however he does not explicitly state that a positive temperature coefficient thermistor (PTC) is connected in parallel to a capacitor and connected in series with the reactor. However, the use of PTC is readily available and well known in the art, as shown by Nacewicz et al. figures 1-5, item 16. Even thought Nacewicz does not explicitly depict

a reactor itself, it shows an inductor coil (22) from an autotransformer in series with a PTC resistor (16), which also is in parallel with a capacitor (18). It would have been obvious to one of ordinary skill in the art to substituted a relay for a positive temperature coefficient thermistor (PTC), which is use when the temperature rises, nearing danger levels, the resistance increases, so less current flows, thereby protecting the vulnerable equipment that receives the current flow. It would also have been obvious since all the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yield predictable results (see *KSR International Co. v. Teleflex Inc.*, 550 U.S., 82 USPQ2d 1385 (2007)).

Response to Arguments

6. Applicant's arguments filed on 6/28/2007 have been fully considered but they are not persuasive.

It is believed that the prior art of record reads on the claims as they have been amended.

With regards to applicant's remarks on page 5, par. 2, that Kwon does not teach or disclose the present claimed invention is not persuasive. Applicant arguments merely amounts to general allegations that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references. In the addition of not clearly pointing out the patentable novelty, which he or she thinks the claims present in view of the state of the art disclosed by the references cited.

Further, they do not show how the amendments avoid such references or objections.

In response to applicant's arguments of claim 5, now amended to include the limitation of prior claim 8, that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992) and *KSR International Co. v. Teleflex Inc.*, 550 U.S., 82 USPQ2d 1385 (2007). In this case, Song clearly discloses a reciprocating compressor that would take advantages of the device for controlling the supply of current as taught by Kwon et al.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action

is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eduardo Colon Santana whose telephone number is (571) 272-2060. The examiner can normally be reached on Monday thru Thursday 6:30am - 3:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lincoln Donovan can be reached on (571) 272-2800 X.37. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center at 866-217-9197. If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 or 571-272-1000.

LINCOLN DONOVAN
SUPERVISORY PATENT EXAMINER

Eduardo Colon Santana
Patent Examiner
Art Unit 2837

/ECS/
October 01, 2007